

FIG. 1A

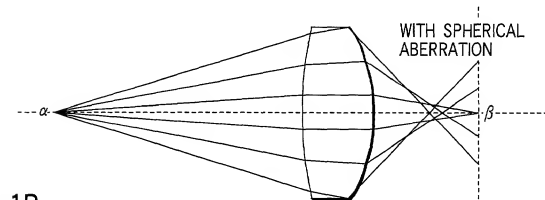


FIG. 1B

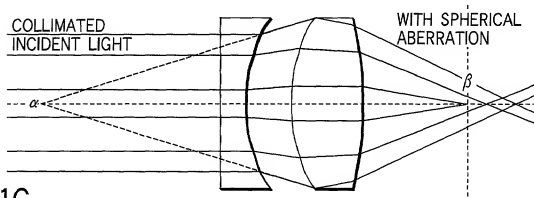


FIG. 1C

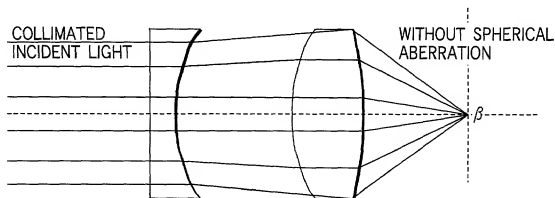


FIG. 1D

STATE WHERE FOCUS IS ATTAINED ON RECORDING LAYER WITH TRANSPARENT LAYER THICKNESS OF REFERENCE VALUE BY USING OPTICAL SYSTEM WITHOUT SPHERICAL ABERRATION
 (ASSUMING NO REFRACTIVE INDEX IRREGULARITY)

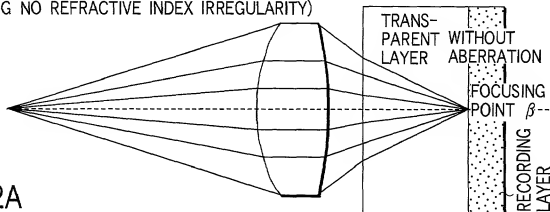


FIG. 2A

STATE WHERE ABERRATION OCCURS WHEN THICKNESS OF TRANSPARENT LAYER VARIES IN DIRECTION IN WHICH IT BECOMES SMALLER THAN REFERENCE VALUE (THE SAME APPLIES TO CASE WHERE REFRACTIVE INDEX OF TRANSPARENT LAYER VARIES IN DIRECTION IN WHICH IT BECOMES LOWER THAN REFERENCE LEVEL)

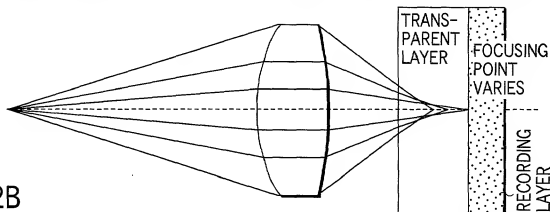


FIG. 2B

STATE WHERE ABERRATION OCCURS WHEN THICKNESS OF TRANSPARENT LAYER VARIES IN DIRECTION IN WHICH IT BECOMES LARGER THAN REFERENCE VALUE (THE SAME APPLIES TO CASE WHERE REFRACTIVE INDEX OF TRANSPARENT LAYER VARIES IN DIRECTION IN WHICH IT BECOMES HIGHER THAN REFERENCE LEVEL)

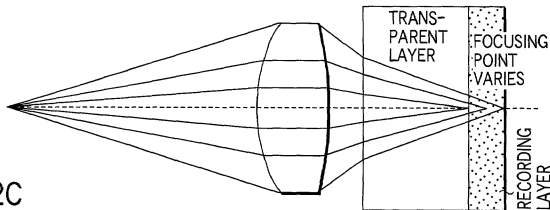


FIG. 2C

STATE WHERE FOCUS IS ADJUSTED WHEN PARALLEL LIGHT IS INCIDENT ON OBJECTIVE LENS WITHOUT ANY THICKNESS IRREGULARITY (REFRACTIVE INDEX IRREGULARITY) OF TRANSPARENT LAYER (ZERO CORRECTION AMOUNT)

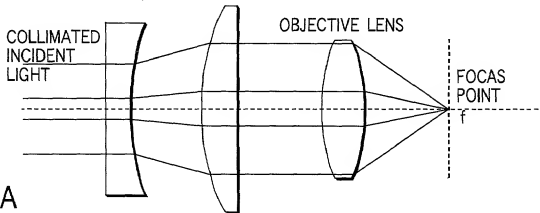


FIG. 3A

STATE WHERE LIGHT INCIDENT ON OBJECTIVE LENS BECOMES NONPARALLEL (CONVERGENT) OWING TO THICKNESS CORRECTION

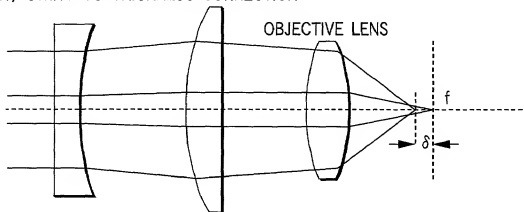


FIG. 3B

STATE WHERE LIGHT INCIDENT ON OBJECTIVE LENS BECOMES NONPARALLEL (DIVERGENT) OWING TO THICKNESS CORRECTION

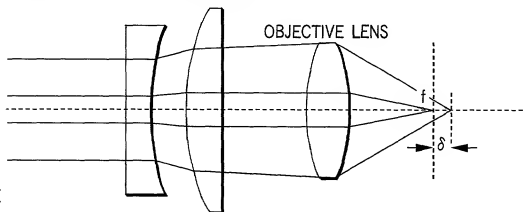


FIG. 3C

IN CASE WHERE FOCUSING POINT β SET BY OBJECTIVE LENS COINCIDES WITH POSITION ON RECORDING LAYER (LIGHT REFLECTED BY RECORDING LAYER AND HAVING PASSED THROUGH OPTICAL SYSTEM UNIT 70 IS KEPT PARALLEL)

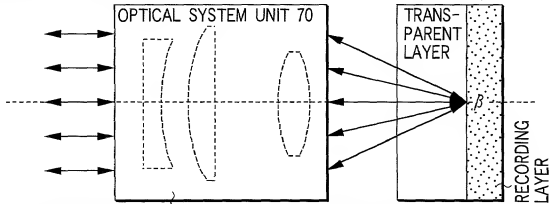


FIG. 4A OBJECTIVE LENS OPTICAL SYSTEM+THICKNESS IRREGULARITY (REFRACTIVE INDEX IRREGULARITY) CORRECTION OPTICAL SYSTEM

IN CASE WHERE FOCUSING POINT β SET BY OBJECTIVE LENS IS LOCATED BEHIND POSITION ON RECORDING LAYER (LIGHT REFLECTED BY RECORDING LAYER AND HAVING PASSED THROUGH OPTICAL SYSTEM UNIT 70 BECOMES DIVERGENT LIGHT)

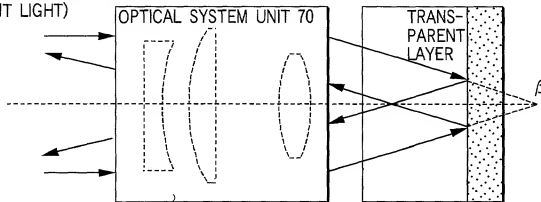


FIG. 4B OBJECTIVE LENS OPTICAL SYSTEM+THICKNESS IRREGULARITY (REFRACTIVE INDEX IRREGULARITY) CORRECTION OPTICAL SYSTEM

IN CASE WHERE FOCUSING POINT β SET BY OBJECTIVE LENS IS LOCATED BEFORE POSITION ON RECORDING LAYER (LIGHT REFLECTED BY RECORDING LAYER AND HAVING PASSED THROUGH OPTICAL SYSTEM UNIT 70 BECOMES CONVERGENT LIGHT)

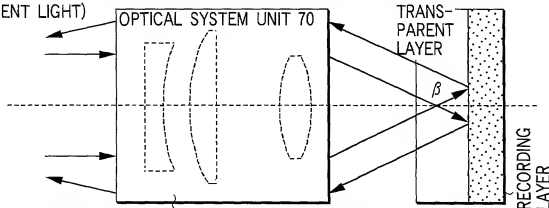


FIG. 4C OBJECTIVE LENS OPTICAL SYSTEM+THICKNESS IRREGULARITY (REFRACTIVE INDEX IRREGULARITY) CORRECTION OPTICAL SYSTEM

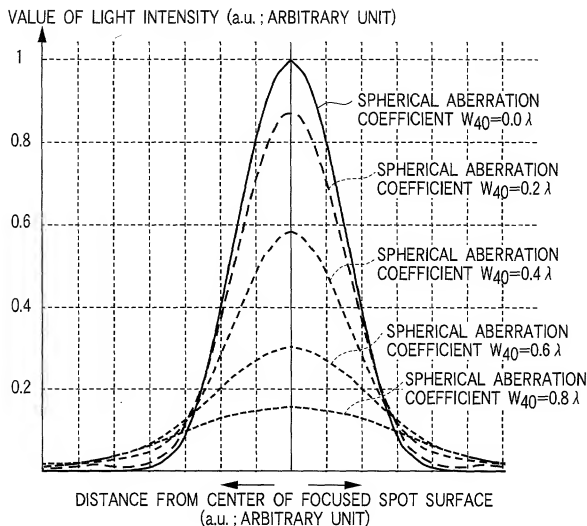


FIG. 5A

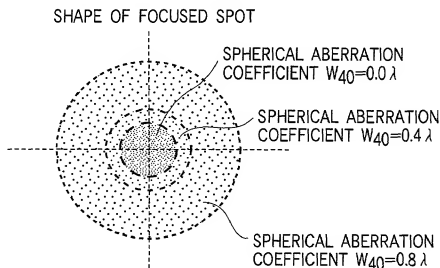


FIG. 5B

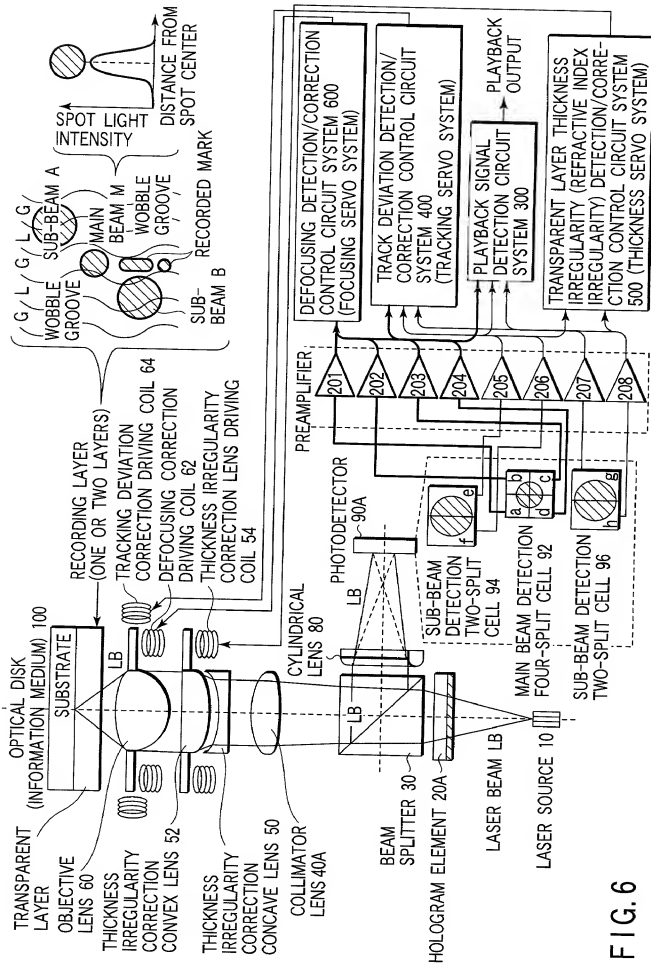


FIG. 6



FIG. 7

SPOT SIZE OF SUB-BEAM A DECREASES, AND SPOT SIZE OF SUB-BEAM B INCREASES DUE TO THICKNESS IRREGULARITY

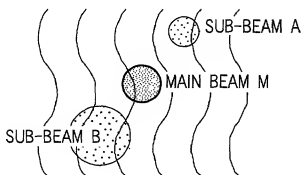


FIG. 8A

ABERRATION OF SUB-BEAM A=ABERRATION OF SUB-BEAM B
 (ABERRATION OF MAIN BEAM M IS ZERO OR MINIMUM)

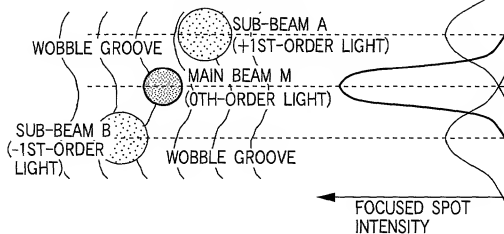


FIG. 8B

SPOT SIZE OF SUB-BEAM A INCREASES, AND SPOT SIZE OF SUB-BEAM B DECREASES DUE TO THICKNESS IRREGULARITY

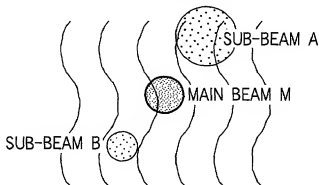


FIG. 8C

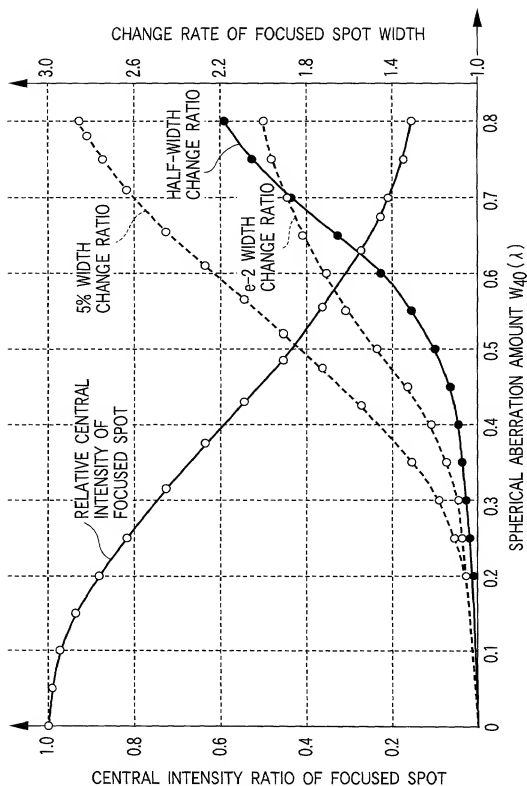


FIG.9

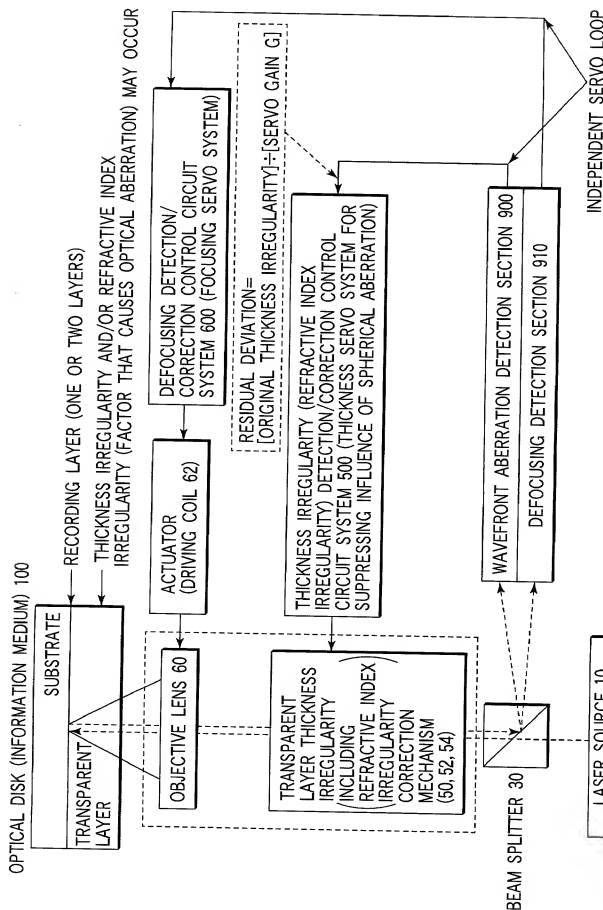


FIG. 10

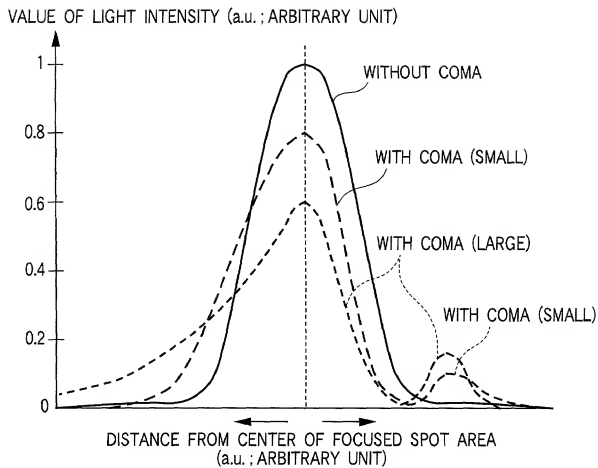


FIG. 11A

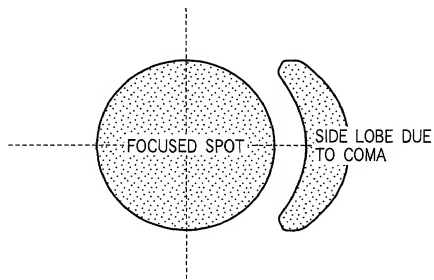


FIG. 11B

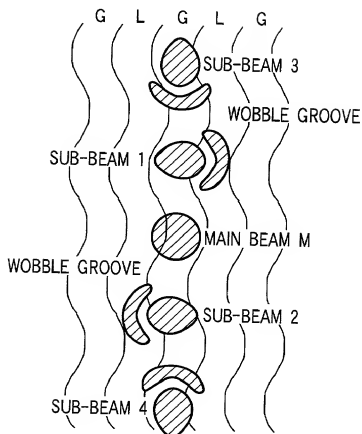


FIG. 12A

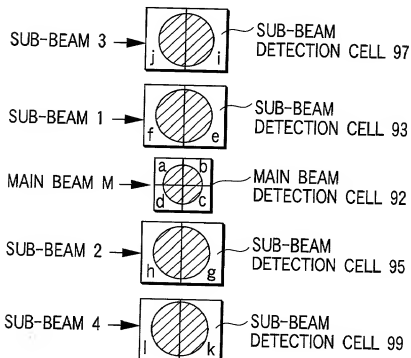


FIG. 12B

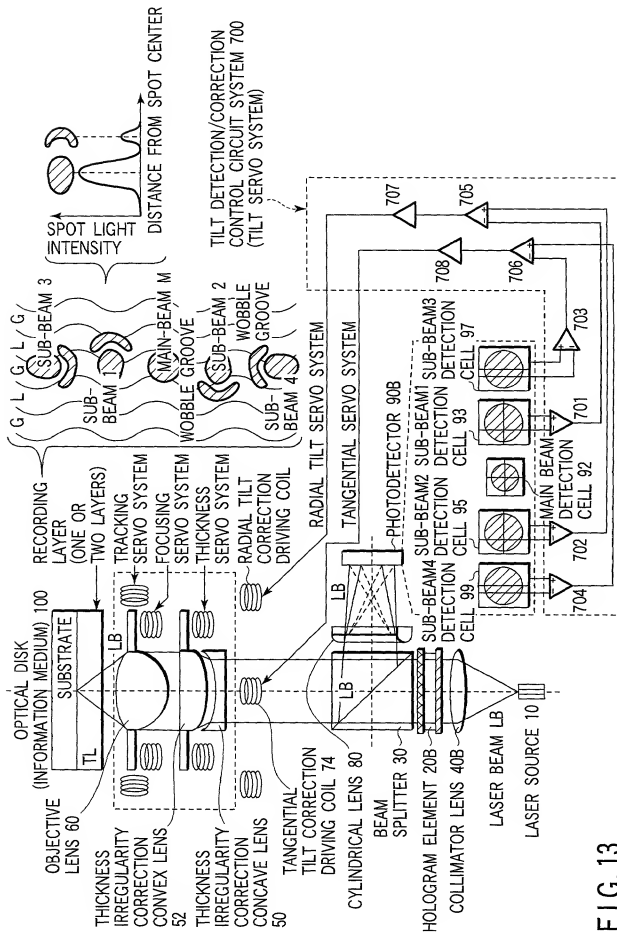


FIG. 13

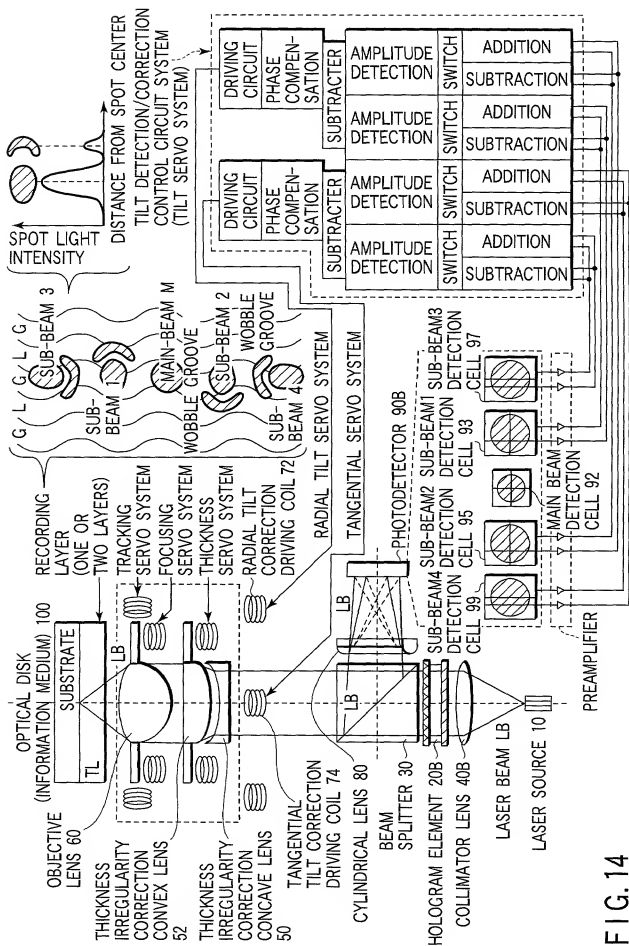


FIG. 14

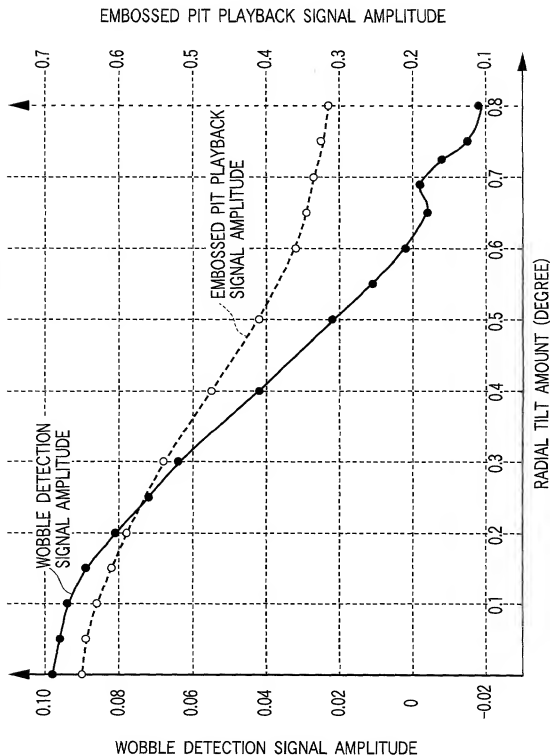


FIG. 15

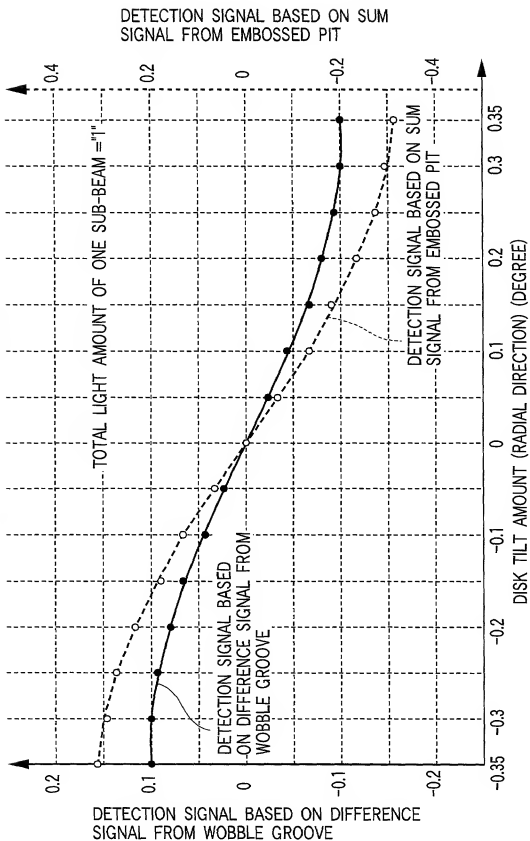


FIG. 16

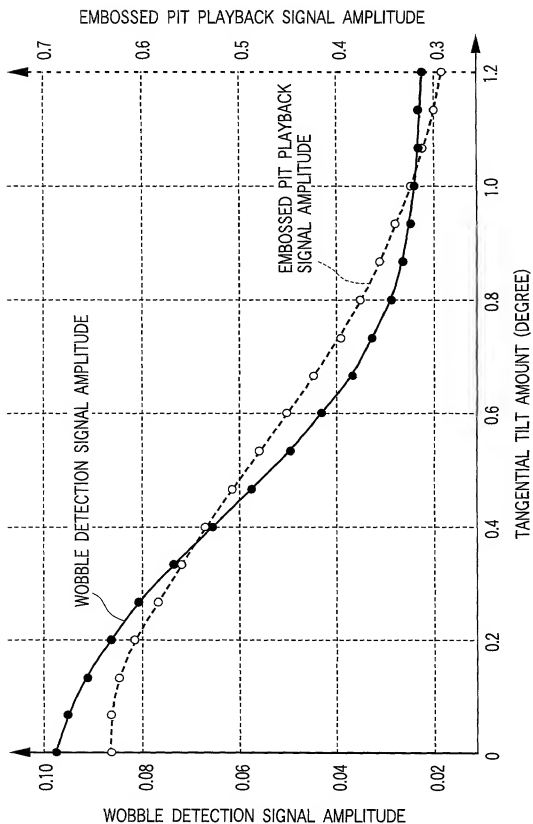


FIG. 17

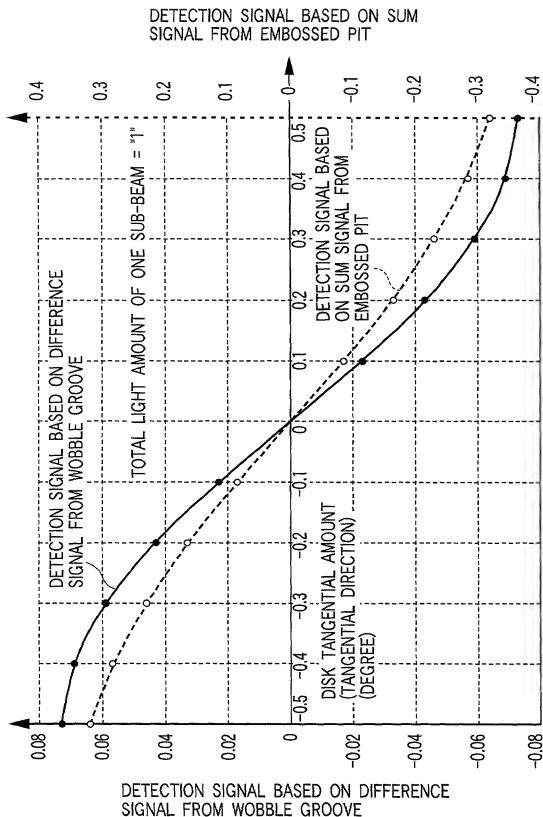


FIG. 18



FIG. 19

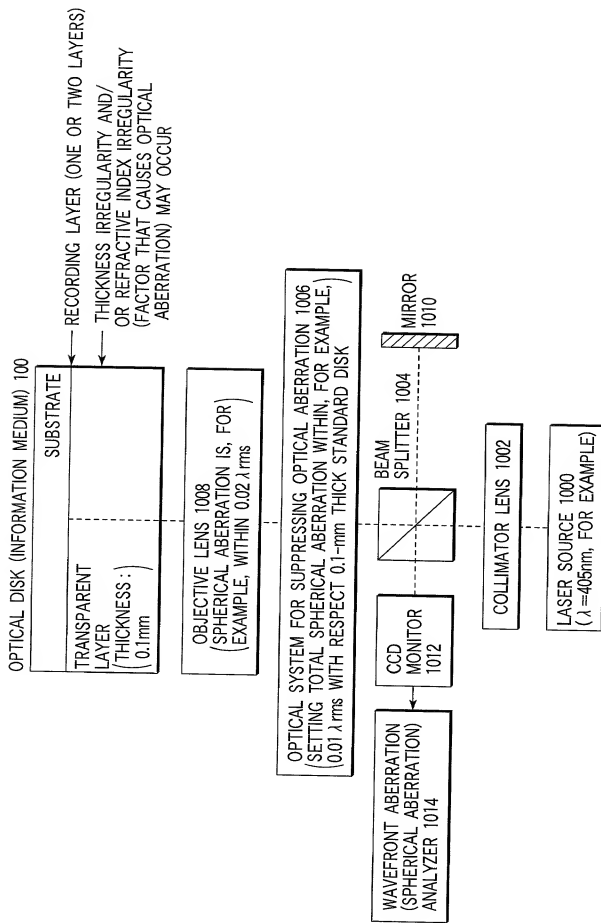


FIG. 20

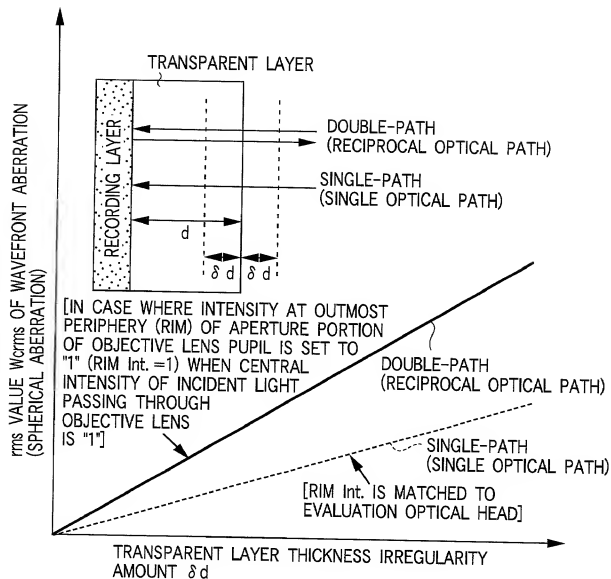


FIG. 21

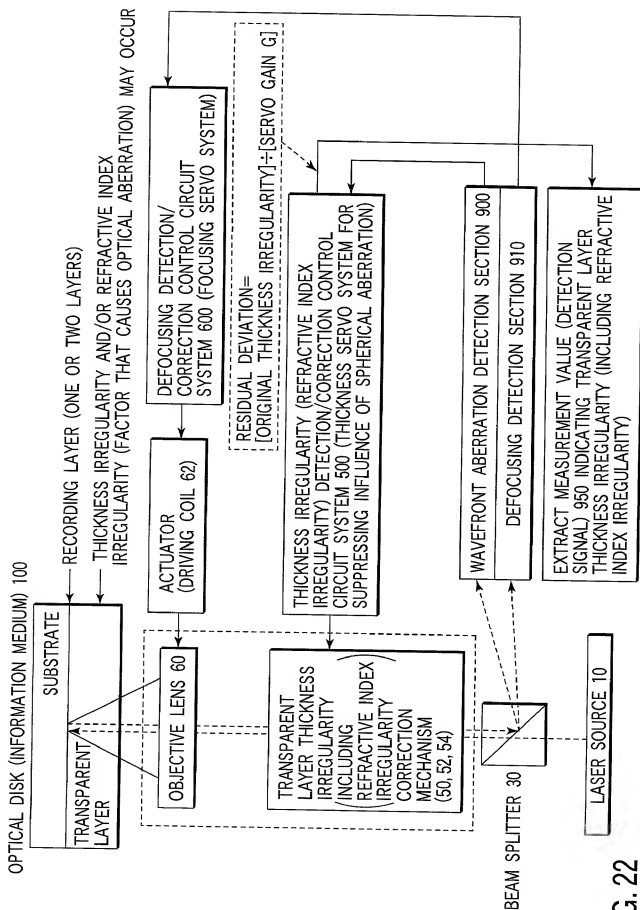


FIG. 22

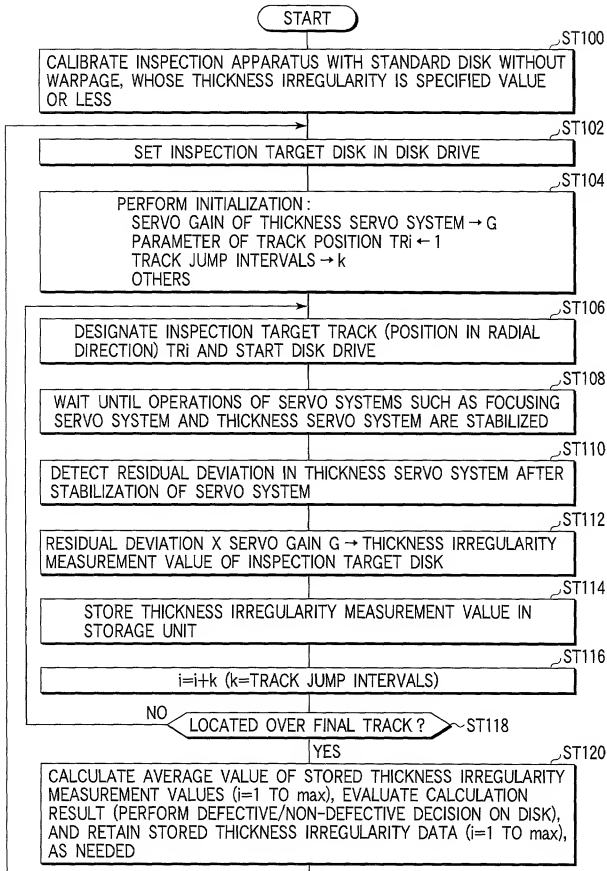


FIG. 23

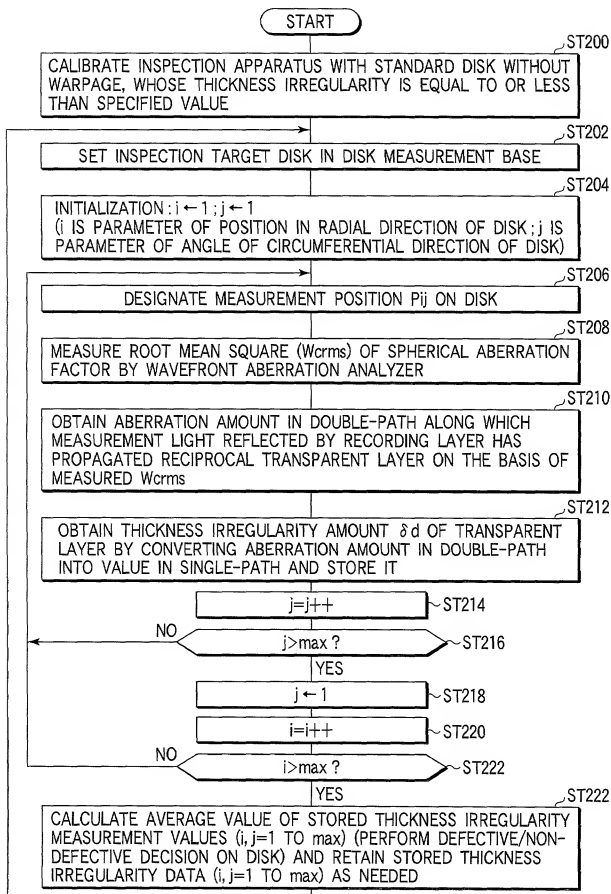


FIG. 24

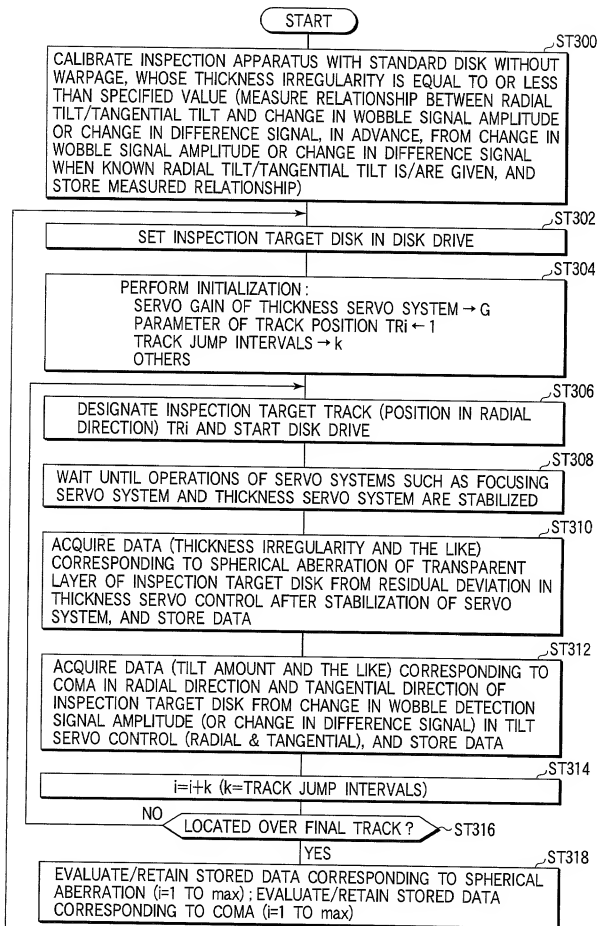


FIG. 25

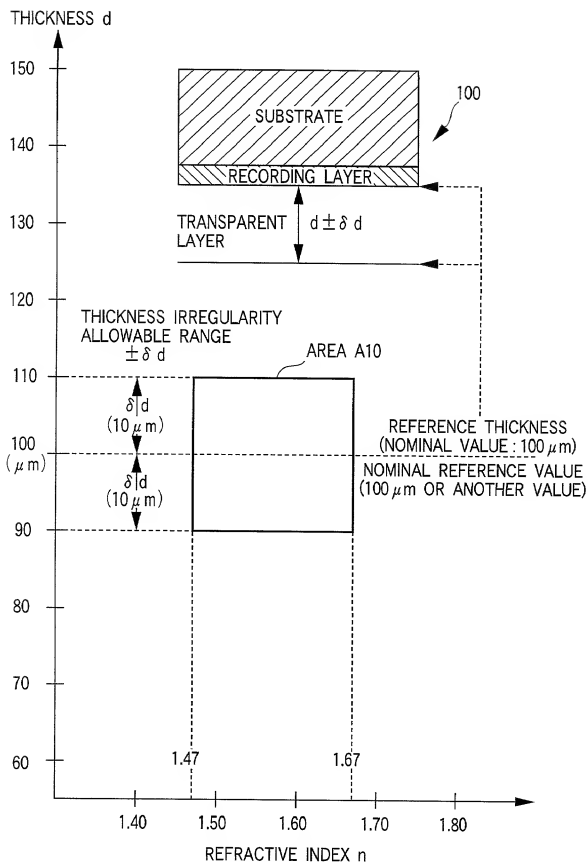


FIG. 26

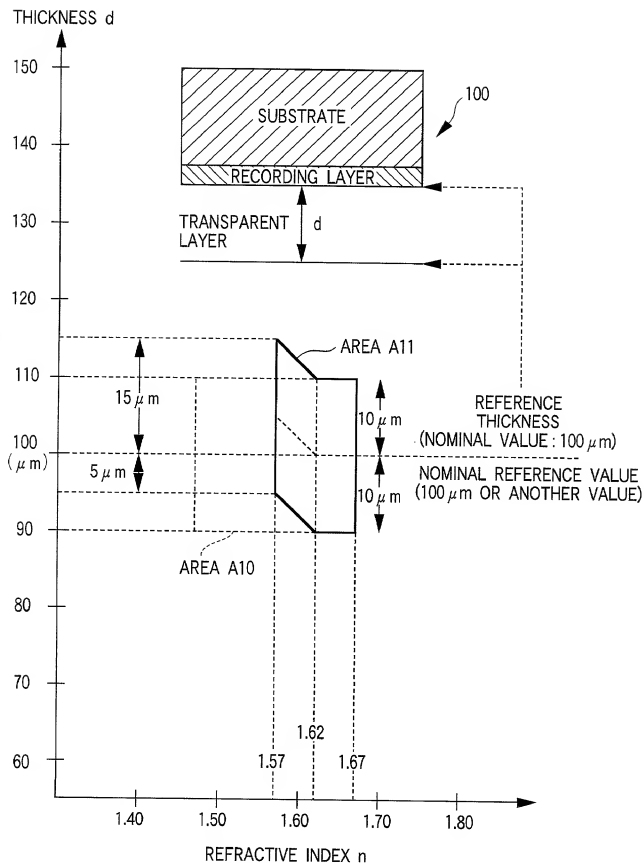


FIG. 27

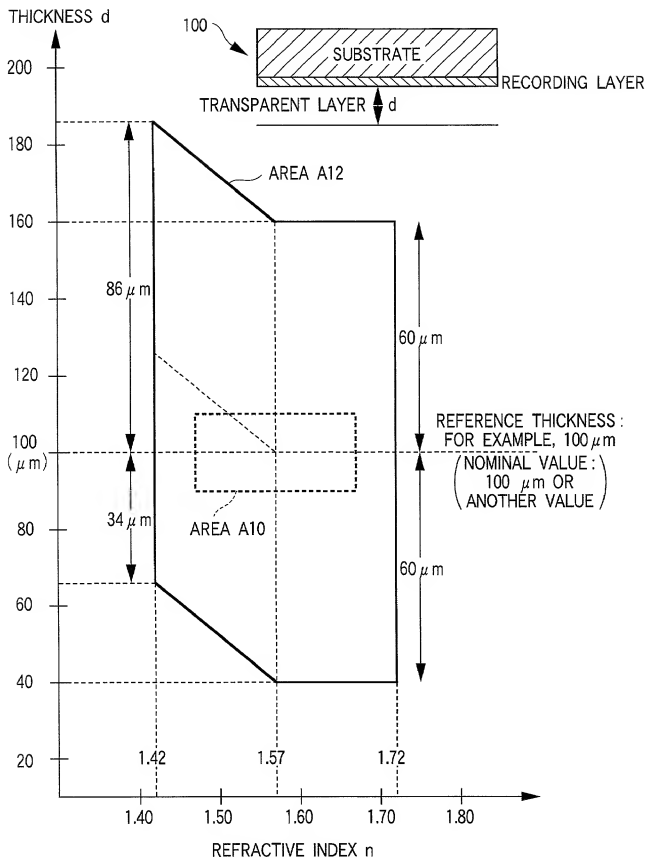


FIG. 28

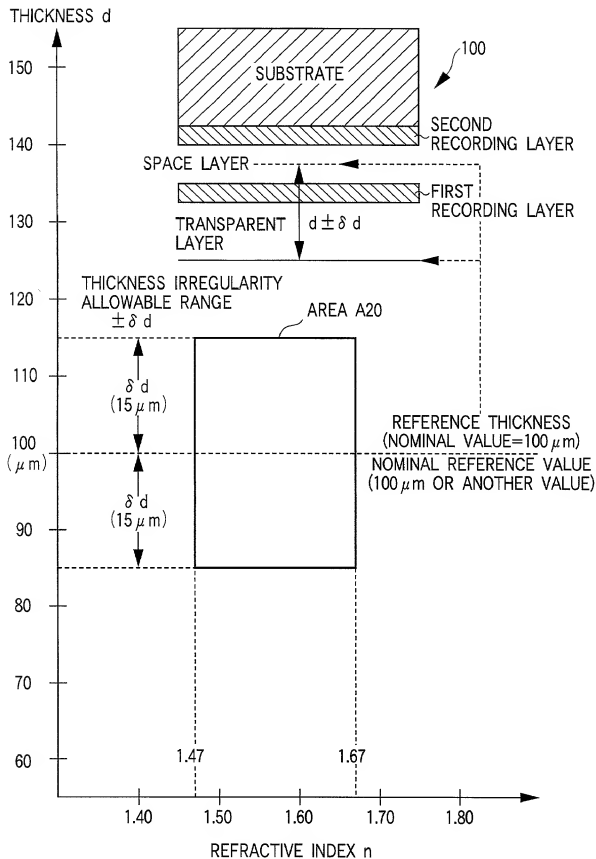


FIG. 29

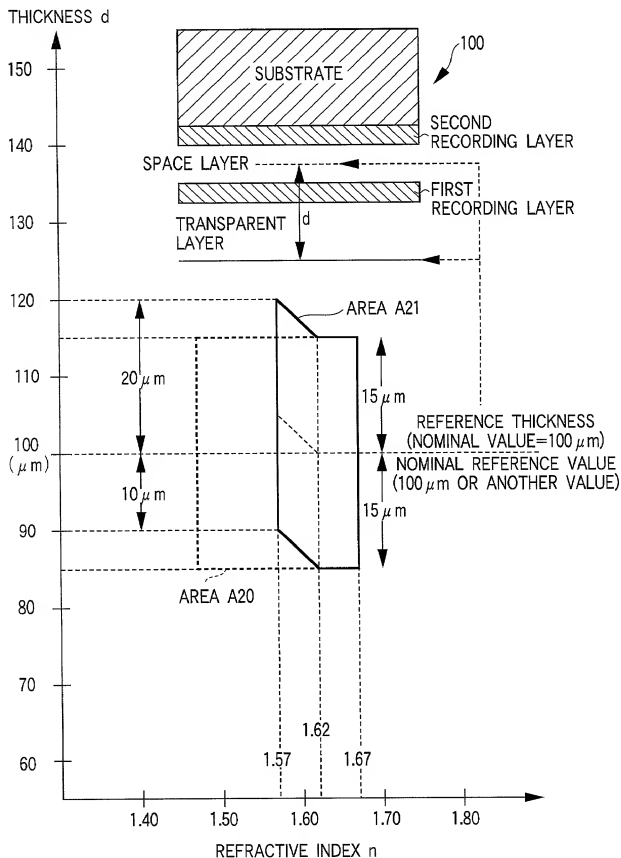


FIG. 30

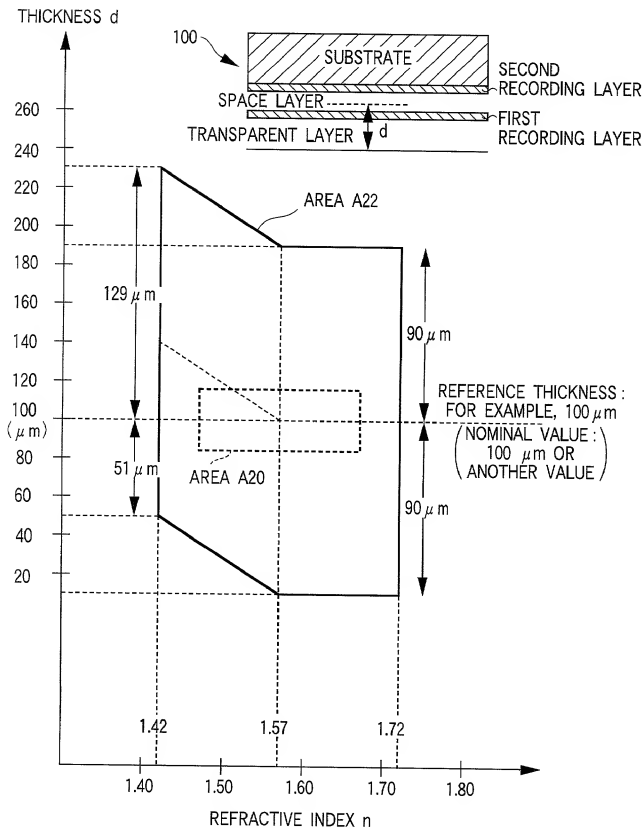


FIG. 31